

Patent Application No. 09/681,793

REMARKS

This Amendment is in response to the Office Action dated May 23, 2003. In the Office Action, claims 1-12 were rejected under 35 USC § 103 and Figures 1 and 2 were objected to. Currently pending claims 1-12 are believed allowable, with claims 1 and 7 being independent claims.

AMENDMENT TO THE DRAWINGS:

In the Office Action, the Examiner objected to Figures 1 and 2. A new copy of replacement Figures 1 and 2 with the legend "Prior Art" is submitted herewith to overcome the Examiner's objection.

CLAIM REJECTIONS:

Claim 1 stands rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 5,773,815 to Stevens ("Stevens") in view of U.S. Patent No. 5,343,160 to Taylor ("Taylor"). As discussed in detail below, it is respectfully submitted that claim 1 is not obviated by the teachings of Stevens in view of Taylor.

Stevens appears to disclose a circuit for conversion of a small signal current at the output of a photodetector into a standard voltage level for subsequent use in high-speed computer. Stevens, col. 1, lines 8-11. As shown in **FIG. 3** of Stevens, the circuit includes a first integrator 10 composed of an integration capacitor 3, a reset switch 4, and an operational amplifier 2. Stevens, col. 3, lines 46-49 and **FIG. 3**. A second integrator 11 is composed of an integration capacitor 6, a reset switch 7, and an operational amplifier 5. Stevens, col. 3, lines 49-53 and **FIG. 3**. A photodiode 1 is connected across the inverting inputs of both operational amplifiers 2,5. Stevens, col. 3, lines 39-42 and **FIG. 3**. The first operational amplifier 2 has its noninverting input 18 connected to a DC bias voltage V_{bias} , while the second operational amplifier 5 has its non-inverting terminal 19 connected to a DC bias voltage V_{bias} . Stevens, col. 3, lines 42-46, col. 4, lines 7-8, and **FIG. 3**.

Claim 1 of the present application recites, in part, "first and second transimpedance amplifiers." Stevens is offered by the Examiner as teaching the first and second transimpedance amplifier elements of Claim 1. See

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Office Action, pages 2-3. Clearly this is not the case. Unlike Claim 1 of the pending application, and as discussed above, Stevens utilizes integrating amplifiers across the photodiode having outputs that increase in voltage magnitude until saturation (or until reset). See Stevens, col. 4, lines 34-41. As shown in FIG. 4 of Stevens, the integration amplifier outputs (V1 and V2) increase as integrating amplifiers integrate (T_3 to T_4), plateau as the integrating amplifiers saturate (T_4 to T_7), and quickly return to their bias voltages as the integrating amplifiers are reset (T_7 to T_8). Stevens, col. 4, lines 32-41 and FIG. 4. Thus, it is respectfully submitted that Stevens cannot be characterized as teaching or suggesting transimpedance amplifiers, as claimed in Claim 1. For at least this reason, Claim 1 is believed allowable over the cited art.

Claims 2-6 are dependent on and further limit Claim 1. Since Claim 1 is believed allowable, Claims 2-6 are also believed allowable for at least the same reasons as Claim 1.

Claim 7 of the present application recites, in part, "first and second transimpedance amplifiers." Stevens is offered by the Examiner as teaching the first and second transimpedance amplifier elements of Claim 7. See Office Action, pages 2-3. As discussed above, Stevens cannot be characterized as teaching or suggesting first and second transimpedance amplifier elements since Stevens utilizes integrating amplifiers across a photodiode. Thus, it is respectfully submitted that Claim 7 is allowable over the cited art.

Claims 8-12 are dependent on and further limit Claim 7. Since Claim 7 is believed allowable, Claims 8-12 are also believed allowable for at least the same reasons as Claim 7.

CONCLUSION


In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and such action is respectfully requested. If any points remain at issue which the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

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No fee is believed due with this Amendment, however, should a fee be required please charge Deposit Account 50-0510. Should any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 the required fee.

Respectfully submitted,

Dated: August 25, 2003


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